What is claimed is:

1. A rotor for a permanent magnet motor, comprising:

a rotor yoke; and

a permanent magnet ring mounted on the rotor yoke, the permanent magnet ring including a plurality of circumferentially spaced poles;

one of the rotor yoke and the permanent magnet ring being an annular member including depressed portions along an outer peripheral edge, each depressed portion located around a midpoint between two poles; and

the depressed portions shaped so the motor produces a sinusoidal flux density during operation.

2. The rotor of claim 1 wherein the other of the rotor yoke and the permanent magnet ring is an annular ring.

3. The rotor of claim 1 wherein the rotor yoke is skewed.

4. The rotor of claim 3 wherein the rotor yoke includes the depressed portions.

5. The rotor of claim 3 wherein the magnet ring includes the depressed portions.

6. The rotor of claim 1 wherein each of the plurality of poles is tapered along each depressed portion.

7. The rotor of claim 6 wherein the magnet ring includes the depressed portions.

8. The rotor of claim 1 wherein the rotor yoke comprises a stack of laminations.

9. The rotor of claim 1 wherein the permanent magnet ring is a pressed permanent magnet ring.

10. The rotor of claim 1 wherein the depressed portions form one of roughly trapezoidal and ovoid depressions.

11. The rotor of claim 1 wherein the magnet ring includes six poles.

12. The rotor of claim 1 wherein each of the depressed portions forms an apex of a triangle.

13. The rotor of claim 1 wherein the magnet ring comprises one of a rare-earth magnetic material and a ceramic magnetic material.

14. The rotor of claim 1 wherein each of the depressed portions is uniform in shape.

15. A rotor for a permanent magnet motor, comprising:

a rotor yoke; and

a permanent magnet ring mounted on the rotor yoke, the permanent magnet ring including a plurality of circumferentially spaced poles;

one of the rotor yoke and the permanent magnet ring including a plurality of depressions along an outer peripheral edge;

each of the plurality of depressions located around a junction defined by two poles; and

the plurality of depressions shaped so the motor produces a sinusoidal flux density during operation.

16. The rotor of claim 15 wherein the outer peripheral edge is annular between the plurality of depressions.

17. The rotor of claim 15 wherein the other of the rotor yoke and the permanent magnet ring has an annular outer peripheral edge.

18. The rotor of claim 15 wherein the rotor yoke is skewed.

19. The rotor of claim 15 wherein each of the plurality of poles is tapered along each of the plurality of depressions.

20. The rotor of claim 15 wherein each of the plurality of depressions is uniform in shape.